

E. S. COLLINS.
Furnace Fender.

No. 61,401.

Patented Jan. 22, 1867.

Fig. 1

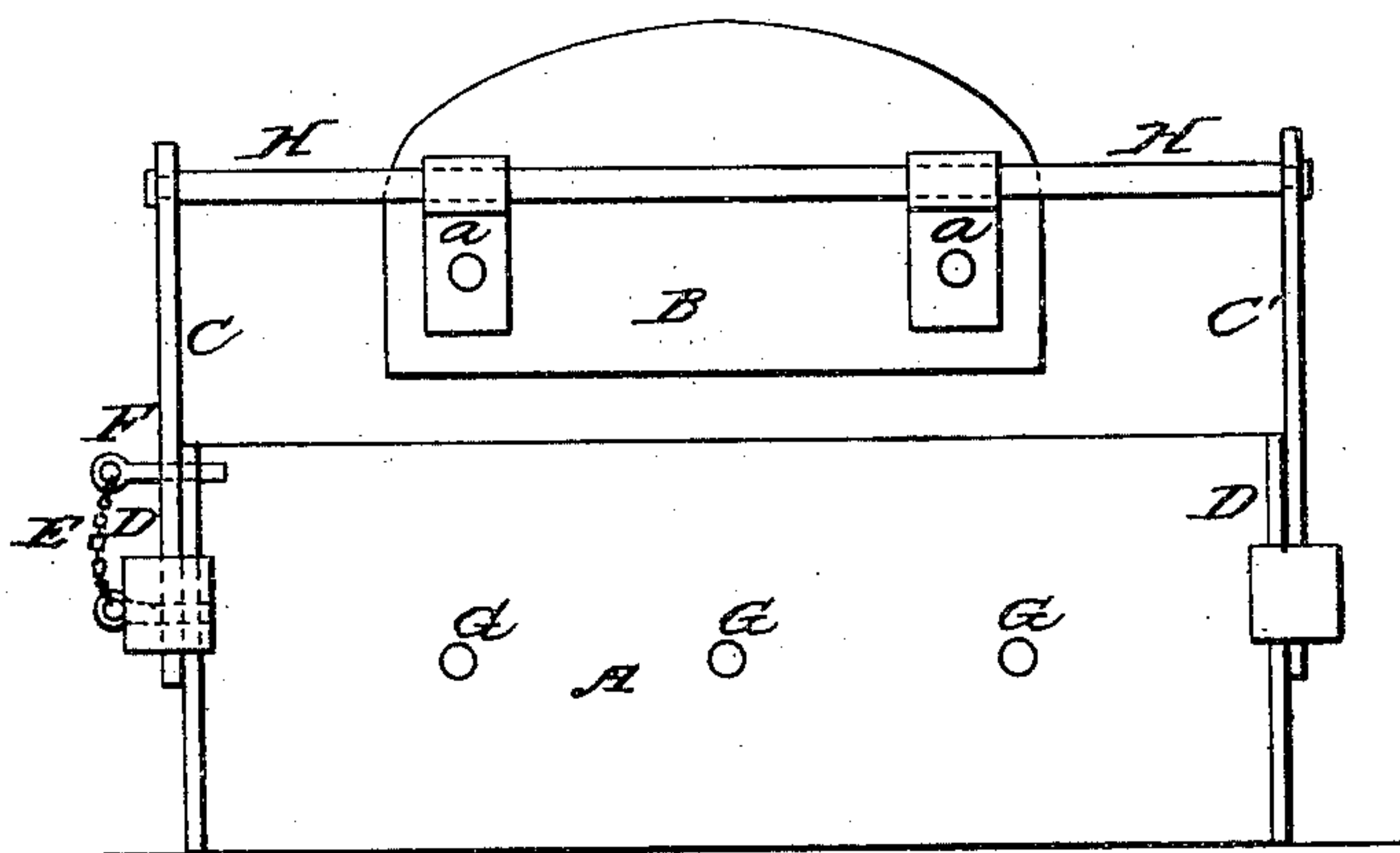
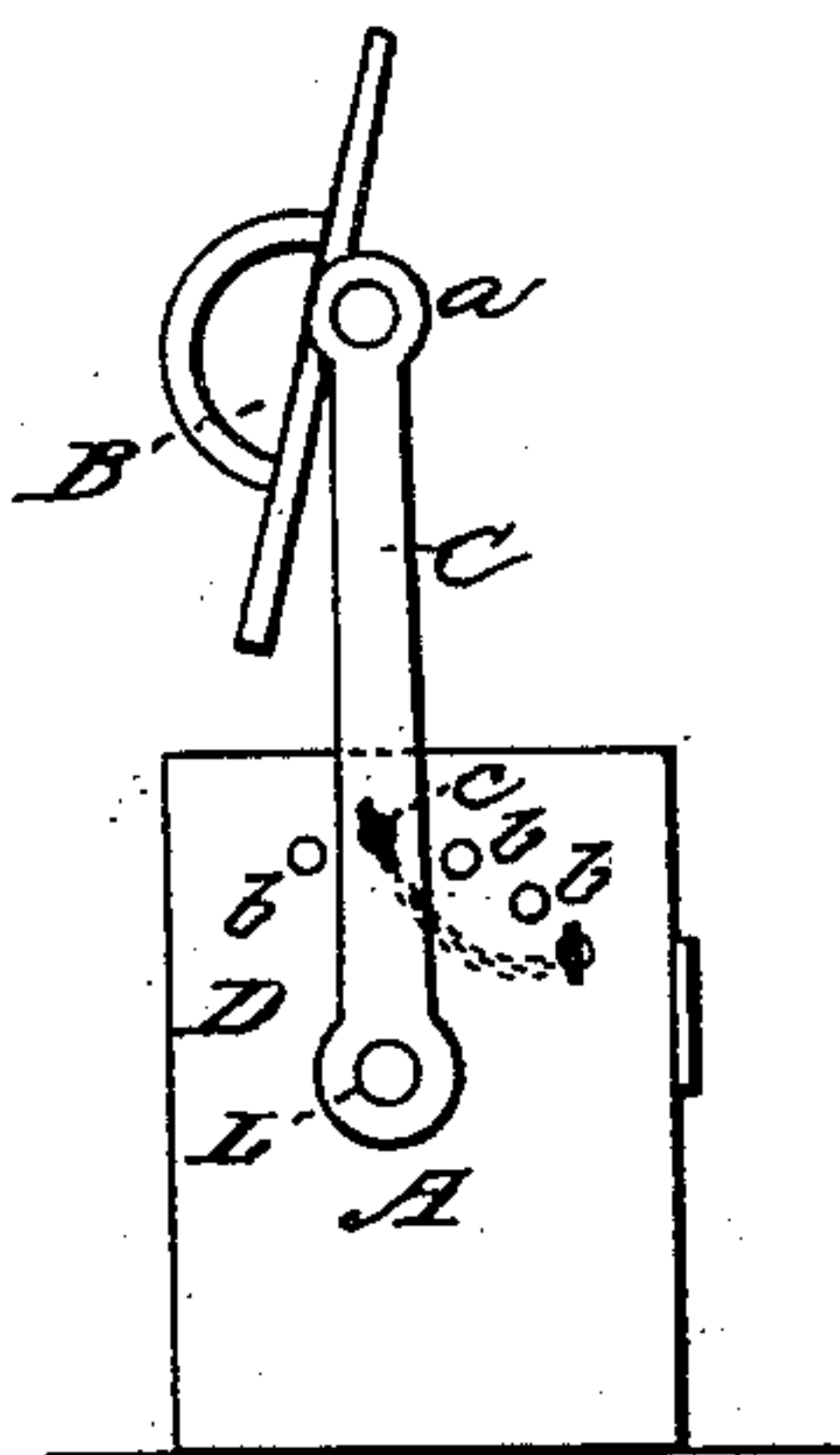


Fig. 2



Witnesses:

Wm. B. Farnington
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Inventor:

Edward S. Collins
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United States Patent Office.

EDWARD S. COLLINS, OF THE UNITED STATES NAVY.

Letters Patent No. 61,401, dated January 22, 1867.

FURNACE SHIELD.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, EDWARD S. COLLINS, of United States Navy, have invented a new and improved Shield for Furnace Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

By the usual method now practised for the cleaning out of the furnace fire of steam boilers, so much time is necessarily required, owing to the intense heat to which the men are subjected, not only directly from the fire through the door, but also from the heat of the clinkers, ashes, &c., removed from the furnace, that the pressure of steam in the boiler becomes reduced to a considerable extent; and furthermore, the men soon become exhausted in consequence of the heat, and their feet oftentimes so burnt as to render it impossible to work quickly. To obviate the above is the object of the present invention, and is satisfactorily accomplished thereby, as will be apparent from the following description, reference being had to the accompanying plate of drawings, in which—

Figure 1 is an elevation of my improved shield for furnace doors; and

Figure 2, an end view.

Similar letters of reference indicate like parts.

A, in the drawings, represents a fender made of sheet iron or other suitable metal or material, which, when it is to be used, is placed in front of the ash-pan of the furnace previous to opening the furnace door. B, a shield hung by clasps, *a a*, at or near each end, upon a square-shaped horizontal bar, H, extending in the direction of the length of the fender A, and supported and turning in the outer ends of swinging arms, C, of each end piece, D, of the same. In either one or both of the end pieces D, of the fender A, are made a series of apertures, *b b*, extending in a circular direction from the turning points or pivots, L, of its arms C, which apertures, at each end-plate, are at corresponding points of the same. F, a pin hung by a short chain or cord, E, to a fixed staple of the fender end-plates, which pins, by passing them through an aperture, *c*, in the fender-arms C, and then into any one of the series of apertures *a*, of the said end-plates, cause the said arms to be held in such position, thereby enabling the shield C to be adjusted, with regard to the furnace door, to the angle required for preventing the heat of the furnace fire from affecting the face of the person or persons who are cleaning out the fire; the fender not allowing the clinkers and ashes drawn out to come in contact with the feet of the persons, as well also as preventing all effects from the heat radiated by such clinkers and ashes, the importance and advantages of which are obvious to all conversant with the cleaning out of furnace fires of steam boilers, &c. As the shield is hung upon the bar H so as to slide, it is obvious it can be brought directly opposite to the furnace door. G G, a series of holes in fender A, the object of which is to prevent its warping.

I claim as new, and desire to secure by Letters Patent—

The shield B, so hung or arranged upon a frame C, H, and G, that it can be adjusted to the required angle with regard to the furnace-door, substantially as and for the purpose specified.

The combination with the door-shield B, of the fender A, when arranged together, and so as to operate substantially as and for the purposes described.

The above specification of my invention signed by me this 25th day of September, 1865.

EDWARD S. COLLINS.

Witnesses:

WM. FINNIGEN,

WILLIAM J. THOMSON.